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THE Journal of Home Economics

For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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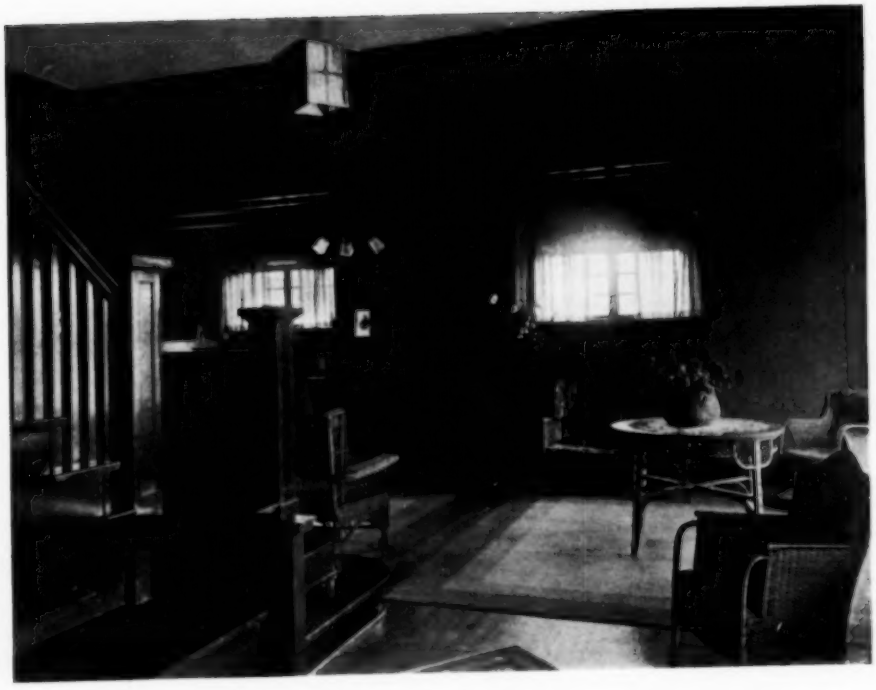


Practice House, Oregon Agricultural College. (See page 71.)

THE

Journal of Home Economics

VOL. IX FEBRUARY, 1917 No. 2

PART TIME EDUCATION IN HOUSEHOLD ARTS[1]

CLEO MURTLAND

A new note has been struck in education. It may have been sounding for some time past, but in the present world conflict attention has been directed to it so that laymen and educators alike recognize its purpose and its force. This new note is voiced in the press and in public speech as "education for service." Attention so long centered upon the personal career of the pupil is now bent upon education for the service which each individual must render to human society. It is bigger than the individual, or the family; than the state or the nation; it is world service. So deep has this thought been driven into the social consciousness of the people that coöperative measures in education, merely tolerated less than a decade ago, are today receiving the wholehearted support of laymen, parents, social workers, employees, employers, and educators—a combined force which, if wisely directed, augurs greater advancement in education in the next generation than has been known in past years.

Education for service promises the most desirable development of the individual; hence the old ideal is merged into the new in a way which promises the best use of the old in the development of the new ideal. Education is, we believe, dedicated to flexibility which makes it possible to discover the service individuals may render, and to train them so that their talents may be utilized to their own satisfaction and the good of society. In this sense, we heartily approve of replacing the personal in education for the impersonal, altruistic ideal which

[1] Address delivered before the Home Economics Session of the National Education Association Convention, New York, July 4, 1916.

service to others implies. This spirit of education is to be welcomed in household arts education if it can eliminate the over-emphasis of the personal which has militated so strongly against its fullest success.

Education for service follows so close upon the heels of the movement for education for all boys and all girls, whether rich or poor, well endowed or less fortunate mentally, physically fit or unfit, as to merge them into one. Service is altruism, not commercialism, in the light of this interpretation. There are no longer any mental reservations in the statement "education for all." We all believe in it. There is no longer serious debate as to the inefficacy of one type of education for all. Individual differences are recognized and education is being shaped to meet them as they become defined.

Time is no longer wasted upon discussion as to whether the education of the boys and girls who enter the workshops, the stores, the factories, the offices, is completed when they have gained enough information to secure a position. Education beyond that which may be given in the schoolroom during the elementary school period, the high school period, and in all-day schools, no longer constitutes education according to modern standards. The workshop is being carried into the school and the school into the workshop. The tearing down of school fences, so that the school may spread out into community life, and community activities may enter the school, opens up educational possibilities little dreamed of a decade ago.

Having recognized different groups of people and worked out to some extent methods for educating them, as was shown in the varied program of this recent convention of the N. E. A., it remains for us to make education reach all the people and to spread it over as many years of their lives as possible; approximately from the ages of four to twenty-five years.

Obviously this cannot be accomplished in the all-day school of any type. Too few of our boys and girls can be expected to attend school beyond the compulsory school age, ranging in the various states from twelve to sixteen years.

For these young people a considerable part of their education must be secured after employment as wage-earners has begun. If the school may have the care and supervision of the education of young people to the age of sixteen, as seems likely, it can extend their general education very measurably, and give them such preparation for entrance into wage-earning occupations as will enable them to understand the de-

mands of industrial and commercial life and guard themselves against exploitation. If the school is allowed the further privilege of recalling the pupils to the school or taking the school into the workshop, the home, or the store, for part-time education for a period of years, *education for all* will become a reality. Learning will not be incompatible with earning, as it has been under the old régime.

Part-time instruction is the term used to designate types of instruction, compulsory and non-compulsory, which are given to young persons who have left school to go to work. Part-time vocational courses, coöperative courses, and household arts courses, given on a part-time basis, are so classified, and are so discussed here.

Who are to be taught the household arts? There is no disagreement among us as to the statement that all girls and women should be taught household arts as part of their general education. The problem is, When shall they be taught and how shall the instruction be given?

The sauce-for-the-goose-sauce-for-the-gander method, which during the pioneer days of this form of education established a place for these subjects in the school curriculum, and brought recognition for them that has reached far beyond the schoolroom, will no longer meet the demands of the girls and women who throng the schools, the homes, and the workrooms.

Household arts subjects are well established in the elementary and high school curricula. As general education they are meeting a great problem in the education of girls. There is room for improvement in methods of instruction and subject-matter. None realize this more than those engaged in the work, but like all elementary and high school education these subjects have been treated with an attitude of "completed" when the diploma has been awarded and the learning period for many young people has closed.

If the household arts—the arts of homemaking and housekeeping—are to reach their highest ideals and their fullest possibilities, they must go far beyond the instruction that may be given in the schoolroom to inexperienced young people. This early period of instruction should do one thing and do it so well that the after-effects would be inevitable. It should instill an interest in and intelligence about the problems of homemaking so thoroughly that the demand for further training in these subjects on a part-time basis after leaving the regular day school will follow when homekeeping becomes a definite responsi-

bility. The most effective learning results when the demand for knowledge is immediate.

The most successful results in household arts instruction will be secured when the instruction can be put into daily practice in a real home. Much of this is accomplished through the use to which school children put the knowledge gained in class, when assisting the mother in the work of the home. But this, valuable as it is, is but a fraction of the problem of homemaking which is the vision of those engaged in household arts education. The greater part of the training must be given in connection with the home itself when homemaking problems become a reality.

There are three fairly well defined groups to be reached by this part-time or after-school training: (1) the girls who remain in the home and assist in the household duties—girls who do not become wage-earners outside of the home; (2) girls who become wage-earners and are removed from any but incidental participation in household work, which under right conditions furnishes the best kind of training; and (3) women engaged as homemakers—the wives and mothers.

Girls who remain in the home and assist in the duties of the home get, under right conditions, the most valuable training in homemaking. There are the daughters of the rich, however, who are receiving little instruction because servants take the responsibilities that the daughters of the poor take in the division of the labor of the household, hence they are receiving little if any instruction in the performance of home duties and frequently no experience in managing the household which is the housekeeping problem of the wife in the well-to-do household.

On the other hand the daughters of the less well-to-do who remain in the home do not always have mothers who are progressive in their housekeeping methods. Many of these young women would profit greatly by part-time instruction in household arts related to the work which they do at home. This group represents an ideal situation for part-time instruction if teachers can get into sufficiently intimate relations with the home life of the pupils. The instruction may be applied daily, and free hours for study may readily be arranged. This group is a large one in the many country districts and the small non-industrial towns of the country, and represents in the aggregate some thousands of girls and young women.

The second group, those who go to work at wage-earning occupations which occupy the greater part of their time, is the most difficult one to

reach with part-time instruction, and their need for instruction in the theory and practice of household arts is perhaps most pressing, since they have practically no opportunity to pick up a knowledge of homemaking during their hours at home. This group will not be reached with part-time instruction in the household arts, to any considerable extent, until legislation makes part-time school attendance compulsory. Industry cannot be expected to pay for instruction which has no bearing upon the industrial efficiency of the workers. Part-time instruction for this group should be of a vocational character—instruction which increases efficiency in the wage-earning work. That this sort of instruction has value to the industry has been proved in many instances, and industry may reasonably be expected to pay the pupils for the time spent in school on the part-time basis. If the industrial employment is one which has bearing upon one of the household duties, it may serve both the wage-earning occupation and the home, but this possibility is too remote to permit of extensive planning of courses to this end. If any considerable number of wage-earning girls and women are to be reached with instruction in the household arts under non-compulsory conditions, it will be through the evening schools, which are already crowded with girls and women of ages ranging from seventeen to seventy who are seeking assistance in some phase of household arts.

The part-time class is preëminently suited to the housewife. She has immediate and pressing problems to be solved; she has abundant experience—oftentimes failures—to furnish the realistic situation that makes household arts more than vague theory; she has opportunity to put into practice the theories gathered through class instruction; and she usually has time during certain hours in the day to devote to the study of homemaking problems. Effort to get the housekeepers into the evening classes has been misdirected. Duties are often heaviest at the hour the evening classes begin. The afternoons and the mornings, when the noonday meal is not served in the home, offer the most convenient time for study for the housewife.

The methods of instruction used are of as great importance in the success of the work as careful grouping of pupils. Teachers realize that the housewife cannot be expected to study with a group of immature girls; or inexperienced girls, with a group of housewives whose achievements far exceed theirs. They also realize that the greater experience demands methods which closely approximate the best prac-

tice in the well managed household, while the less experienced group must be taught details of practice and management that have become so well established with the experienced group as to become almost automatic in practice.

If instruction in the household arts in these part-time courses, particularly for the housewives or in evening class for the women who work all day, is successful, it must have what the small boy calls "pep."

In the past the household arts teachers and leaders have held to the theory, unconsciously perhaps, that the home was wholly apart from the industrial and commercial life about us, that methods used in the workroom were not suited to the home even though adjustments in the workroom methods were made to suit the home. Instruction has been based upon old-fashioned and, in some instances, upon obsolete methods. The result has been, in many instances, much lower standards than the teachers anticipated, and disappointment to the pupils.

There is no desire upon anyone's part, so far as I know, to commercialize the home, but the home must compete with industry in the productive work of the home which is duplicated in industry. For this reason it is true that household arts instruction will profit greatly by making use of right industrial methods. Except for plain mending and renovation, home dressmaking as such no longer exists. The woman who attends dressmaking courses in the evening schools or in part-time courses does so because she wishes to learn methods by which she can produce clothing of as good style and attractiveness as her neighbors and friends buy in the store, or secure from the dressmaker. She also wishes to learn time-saving methods in her work. Making over old gowns is done on the same basis. Mending has also become a commercialized art and when the housewife learns these arts, she compares her achievements with the commercial product in these lines.

Dressmaking courses of the household arts type will accomplish their ends when they adopt commercial methods and commercial standards of work, and not the least of these will be the best use of time which makes home dressmaking a profitable occupation for the housewife, and not a means for proving that her time is of no value.

Millinery courses should be given with trade standards as the ideal also. The housewife who wishes to make her own hats desires to have them as attractive and well-made as those of her neighbor who buys them from the milliner.

The making of the family budget which is coming to have a prominent place in courses for housewives is clearly a business method adapted to home problems.

A great deal has been gained for the household through the commercial kitchen of the tea room and cafeteria. Through the hospital have come methods of efficiency and economy in sanitation of the home. Much of the value of spending in order to secure larger and more effective results in the household has come by the way of the commercialized household, which because of its demands was forced to take the venture denied the home until proof of the efficiency and economy was shown.

The place which we call home, which is in large measure *esprit de corps* and atmosphere rather than furniture and meals, whether simple or pretentious, cannot be marred by efficiency methods, if the right spirit exists in the household. Efficiency methods applied to the practice of the household arts leave more time to the housewife to practice true homemaking, the aim and ideal of household arts education. In so far as this is true the work of the home should draw from the business world for methods. The home and industry must be in harmony with each other in so far as they react upon each other, not at variance, if household arts instruction is to serve truly and effectively all women who become homemakers.

Part-time courses in household arts are, for the rank and file of women, the ideal means for teaching these subjects. They furnish a means for prolonged study of the manifold and complex duties of the home. They promise to women, engaged in the office or the factory, a means for securing training for homemaking when that responsibility is assumed. If kept abreast of the best practice of the commercial world with which they must compete, instruction in the highest ideals of the home and in the household arts, may be taught to every woman readily and effectively, no matter what her occupation may have been before her marriage.

Household arts education taught by this part-time method will demand teachers of broad social interest, women who can bend their scientific knowledge and specialized training to the development of education for service. The ideals of household arts education will remain high, but will be made sufficiently flexible to meet the needs of different groups of women and varying types of homes. A first-hand

knowledge of home problems will constitute an important part of their training; the ability to meet the home making situations intelligently, and to impart instruction relative to them, will replace the formal methods we now have. Household arts education under this new order has its great opportunity.

THE "PENN FAMILY" PROBLEM

ADA Z. FISH

William Penn High School, Philadelphia

In the William Penn High School, the senior girls of the Art and Home Economics course study budget making as a part of the work given in the so-called home management class. An explanation of the term budget is followed by a general discussion of the need of such a system in the home. Recently the clearness of the explanation was questioned when several of the girls in a written test used the term "bugget."

It seems a privilege to introduce Mrs. Richards to a group of girls who have never heard of her. Her ideal budget is discussed and the percentages represented graphically by means of the divisions of a circle. These percentages become the basis of our study and we build toward them, although we know they are impossible at the present time, especially the 25 per cent allowed for food.

An application of the principles of budget making is made by means of an imaginary family, consisting of five members. It seems appropriate that this family should be named Penn and that historical facts should be used to give added interest to the problems.

The "Penn Family" is determined as to the name, the age, and the sex of its members. Certain pupils are appointed to look up the history of William Penn and his family. William Penn is always the father and thus far Hannah Callowhill Penn has been the mother. Gulielma Penn was really the first wife of William Penn but the girls prefer the simple name of the second wife. There is always a Letitia Penn who is supposedly one of the girls studying the problem. The other members of the family vary. At present there is a Richard Callowhill Penn.

Margaret Jasper Penn was a grandmother last year but now she is a baby one year old.

William Penn has usually been a floor walker but now he is a clerk in a Life Insurance Company. The decision to change his occupation was largely due to the fact that he would receive a free luncheon, served in an attractive dining room, and under the supervision of a trained dietitian.

William's salary is $1200. That is undoubtedly a higher income than is represented in the homes of many of our girls but we wish to keep the children in school and hold to certain standards of living.

Each girl brings to the class definite data as regards a house she would like the "Penns" to live in. This need not be her own home nor even in the neighborhood where she lives. Some of the fathers go house-hunting with their daughters to find a house suitable for the "Penn Family." Lists of these houses are made in the note books as they are discussed and finally the location is settled by a vote of the class. The "Penns" are now living on Spencer Street and are paying $21 per month for rent. William can walk to business during pleasant weather and Letitia and Richard are within easy walking distance of the schools which they attend.

Operating expenses are taken up in a similar way. By this time the personal element enters in. "We have the same number of rooms, why do we burn so much more coal than Mary Smith's family?" "Why are our gas bills higher?" It takes some energy and tact to bring about an agreement as to what the "Penns" shall allow for operating expenses. Usually we are able to learn just what the family in the real house are spending.

The clothing for each member of the family is worked out in detail; every girl is required to bring in her lists. The amounts are first compared and then usually the lowest one is taken to discuss and build upon. A year ago one of the girls brought in a budget for William's clothing amounting to $35 for a year. The rest of the class were very much amused but Evelyn said very forcibly, "It is possible, because my cousin's clothing only cost that much last year." It seems the cousin had left his home because of some difficulty with his parents. By means of his automobile, he was earning his way through college. Of course it was easy to understand that such a young man would have a goodly supply of clothing with which to start.

The food problem is handled by the teacher of dietetics. A committee is appointed of which Hannah Penn is chairman. Each member of the committee presents menus for the meals of the "Penns" for a day. These menus are discussed and a decision is made as to which ones shall be prepared. The market order is then made out. The following day Hannah is given the money and she with her committee buys the food at the market. The teacher accompanies the class but Hannah is responsible for the buying and for carrying the basket of food back to the school and taking the proper care of it. All three meals are prepared at one time. They are brought together and are discussed as to quality, quantity, and food requirement. The meals are served in good form, one of them in the dining room, using home service. William carves the meat, Hannah pours the tea, and Letitia serves the dessert. The cost and dietetic value of the meals are carefully worked out. Interesting comparisons are made between costs in the regular market and in the retail stores. The problem is repeated until the meals for a week have been prepared. Their cost multiplied by fifty-two gives the expense for food. Thirty-seven per cent of the income was used for food by the last class.

In the question of the "higher life" we come face to face with the same problem that confronts the average family. With a salary of $1300, we were able to meet the requirements fairly well but with the salary of $1200, Richard must help. Now, he is earning $3 a week delivering flowers for a florist after school and on Saturday. This happens to be just what a boy, known to one of the girls, is earning.

This problem also correlates with our house planning and furnishing that is taken up in the art class. An apartment is furnished in which Letitia is to begin housekeeping. The furnishings are in the form of a loan exhibit from a Department Store. The girls, with their teacher, study the furniture at the store and after a class discussion decide upon the various articles. The rugs belong to the school because the wear is naturally hard upon them. We can have, from the store, china, pictures, in fact anything we wish. Experts are appointed to lecture to the girls and every possible courtesy extended. Everything is returned at the end of the year and the problem is worked out anew.

COURSES IN SEWING FOR ELEMENTARY AND HIGH SCHOOL AND THEIR CORRELATION WITH DRAWING

MARTHA H. FRENCH

Director Textiles and Clothing Department, State Normal College, Ypsilanti, Michigan

Sewing in our schools for a long time meant the teaching of a few stitches and seams and the application of these to garments more or less simple. If a child had made the stitches on some little patches of cloth, models so-called, she was then ready to begin making simple articles and after these, garments of some kind. Progressive teachers are now beginning to realize that such teaching is but a small part of the broad training which should come under the head of sewing inthe grades and high schools. If our courses were spoken of as courses in clothing rather than in sewing it might give opportunity and inspiration for a broader treatment of the subject. Of course, any child must learn to sew by learning to do various stitches; but the reason for teaching the stitches on small patches of cloth and then, as is done in many schools, mounting these in books and grading them 65 or 90 per cent passes the comprehension of thinking mothers, and, I am happy to say, of thinking teachers.

Clothing is a subject that can easily be brought into close correlation with almost every subject in a school curriculum; in fact it involves many subjects as a part of itself. Yet in many schools none of this interrelation is made evident, and the teaching of seams and garments is the sum total of the sewing courses; not even the materials and the cost form any part of the definite work.

The history of clothing is as fascinating as it is profitable, and through its study we realize how fashions are influenced by the political conditions in a country. The history of a country, in its making, sways the fashions.

Physics is related to the study of clothing since it is important in discussing protective power against heat, cold, and moisture, and in connection with mechanical apparatus, such as sewing machines, shears, irons, and mechanical testing devices. The examination of fabrics and textile fibers with the microscope involves optics. Chemistry is related through the action of cleaning reagents upon the various textile fibers and the chemical methods for testing textiles. Physiology and hygiene teach one what to wear in order that the body may be

properly protected and at the same time muscular movements, body development, and normal body functions be unrestricted. Languages may be useful for historical books on costume; but most necessary of all these subjects, and underlying all sewing, should be drawing and design.

When there is no correlation with the art work three reasons usually explain this lack: first, the sewing teachers know so little of the principles and mediums of the artist that they cannot suggest correlation; second, the art teachers know so little of the principles and mediums used in sewing that they, in turn, cannot suggest means for unifying the work; and third, neither instructor is willing to make the necessary concessions to bring the two subjects closer together, nor does either care to give the time and effort required to develop successfully a series of lessons which shall be sequential both in sewing and in art.

A few definite suggestions may prove helpful in bringing these subjects nearer together.

Because of the lower cost of installation, sewing instead of cooking is usually begun in the fifth grade; and, lest the child's interest be killed and her eyes and her nerve force be overtaxed, the problems must be extremely simple. They should touch so closely the life of the small worker that her zeal is keen to do well each stitch.

The inspiration must vary with each class as the situation demands. It may be that to be making a gift for mother will suffice, or an article of use in the child's own life may give the keynote. Certain it is that there must be something to give zest if small children are to be trained to sew well and happily.

Every article made by these children should be designed under the direction of the art teacher. For example, suppose in the fall, while each department is getting under way, a simple doily of India linon be made. An inch hem is turned, basted, and chainstitched around the central square; the corners from the chainstitching to the edge are hemmed down, and the open ends of the hem are overhanded. These very short spaces to sew aid in intense effort for tiny stitches. Along with this work are given suggestions as to attractive uses for doilies; and the finished article is pressed and well wrapped as a gift for mother. Four of these may be made from one yard of material, and a ball of D. M. C. will chainstitch a great many. The cost is about 8 or 10 cents, depending upon the quality of India linon, suggesting that daintiness may be had at small cost.

While this is in the process of construction the time in drawing may be utilized in designing the next article, a sewing bag, studying its proportion, and decoration; or an oval holder with block printed or stenciled design; a sewing apron with linear design for feather stitching; sofa cushions with straight line designs for braiding with either soutache or coronation braid; or designs for applique figures for runners or cushions.

Working drawings or pattern drawings may be made for silver cases, pencil holders, shoe bags, or paper and string bags, any of which are appropriate work for the early grades, and serve as excellent foundations for the study of lines, proportion, spacing, unity, color, and harmony.

In the lower grades the sewing instructor rarely has access to sewing machines for her classes, and in consequence her plans must cover only such articles as can properly be done by hand, and this forbids long seams and tedious processes, but does not alter the possibilities for the study of design and color.

In the seventh and eighth grades, if a whole or part of the year is given over to sewing, it is necessary to have sewing machines. At this age students are beginning to care for clothes, and it is a desirable time to teach something of the hygiene of clothing, as well as good taste and appropriateness in dress. The opportunities for the art teacher are now greatly increased, both through the age of the students and the class of articles to be made.

To connect this with the previous art work and utilize principles already taught, underclothes may be planned with linear designs for feather stitching, either alone or in combination with other forms of embroidery; groupings for tucks and, if desirable for occasional use, more complicated patterns for setting in lace or embroidery insertion may be worked out.

Simple house dresses and separate blouses may follow and with these the continuation of color studies, harmony of colors, the effect of lines, of spots of color, the placing of decorations in such a way that pleasing spaces may be kept. Motifs for embroidery and conventional designs may be developed. Many of the paintings of the old masters would give wonderful suggestions along this line, and, at the same time, aid in familiarizing the students with these pictures.

High school work in clothing will cover what has been suggested for seventh and eighth grades, if these grades do not sew, continuing further with a study of wool fabrics and the making of a wool skirt and sepa-

rate waist, or a wool dress. The art department will give instruction in suitability of design and decoration to material; and of design, material, and color to figure. A silk shirtwaist, lawn dresses, simple and attractive, all give opportunities for study in art.

In millinery, also a high school subject, the art department may aid in making the students observe with definiteness. How many women ever see a hat in inches? Surprisingly few can tell you with anything like exactness the height of a hat crown or the width of a brim.

We are not trained to take in detail rapidly. If the whole effect is pleasing and satisfying there should be a definite reason why, and the younger women, the women of tomorrow, should have a training in the principles of art that would answer the why. The Century Dictionary says art is "the exhibition of the power of perceiving the beautiful, and of expressing it in beautiful forms," and to the art and the clothing teachers working together be the fulfillment of this definition.

Each department has, besides, its own problems to work out. In sewing, these problems are the care of clothing, including the cleaning and pressing of clothing and the proper airing of garments; the cost and economic study of production of materials and ready-to-wear garments; labor laws, the Consumers' League, and other topics valuable to the consumer.

For such a study of clothing surely no one will hesitate to grant educational value. We who teach sewing and beg for recognition must prove our cause to be more than the making of garments, suitable and attractive, which is in itself something; we must add to this the real underlying principles that give educational value to our subject, by broader teaching.

CORRECTION

On page 637 of the December JOURNAL, in the quotation of Ford and Pryor's work, the statement should read "These investigators consider it safest to boil the milk from 1 to 3 minutes" (not 10 to 30 minutes as stated).

RECENT ADVANCES IN OUR KNOWLEDGE OF DIGESTION AND ABSORPTION

LOUISE STANLEY, PH.D.

University of Missouri

A review of the physiological literature of the last year brings to light many interesting and valuable additions to our knowledge of the conditions of digestion and absorption. Especially in the field of gastric digestion have there been important advances made. The greater portion of this work comes from Carlson and his students at Chicago working on a human subject with a gastric fistula, and with Pawlow dogs, and from the students of Rehfuss and Hawk at Jefferson Medical College, working on human subjects with the Rehfuss stomach tube.

Carlson[1] reported last year the results of some very interesting work on Mr. F. V., a worker in his laboratory, with complete closure of the esophagus and a gastric fistula since the age of seven. This article was reviewed last year but we may briefly sum up his conclusions: (1) The fluid content of the empty stomach varies but the general average does not exceed 20 to 25 cc. (2) There is a continuous secretion in the empty stomach. (3) Chewing inert substances produces little effect on gastric secretion. (4) Secretion produced by seeing, smelling, or thinking of food is slight and inconstant. (5) There is an increase on chewing and tasting palatable foods. (6) There is a direct relation between the palatability of food and the rate of secretion. (7) Latent period of the appetite secretion depends upon the condition of the gastric glands. In some cases there is no latent period. It varies also with the intensity of the appetite stimulation.

In a later article[2] Carlson gives the results of the continuation of the above experiments with special emphasis on the composition of normal human gastric juice. His figures on the appetite juice are especially valuable because he was able to obtain samples unmixed with food or saliva. (1) The acidity when secreted above a certain minimum rate is practically constant—a total acidity of 0.5 per cent HCl. That secreted at lower rate showed a lower total acidity and chlorides. (2) The normal acidity found equals the acidity reported in so-called cases of hyper-acidity. There seems to be no evidence that the stomach can

[1] Carlson, A. J., Secretion of Gastric Juice in Man, *Amer. Jour. Physiol.*, 37, (1915) p. 50. See review of article, JOURNAL HOME ECONOMICS, December, 1916, p. 631.

[2] Carlson, A. J., Composition of Normal Human Gastric Juice, *Amer. Jour. Physiol.*, 38, (1915) p. 248.

ever secrete more than this percentage of acid. The difficulty in cases of hyperacidity seems to be due to an upset of the mechanism for the neutralization of the excess of acid in the stomach rather than to a secretion of too much acid. (3) The high acid of the gastric juice is under ordinary circumstances neutralized by regurgitation of the alkaline fluid from the intestine. (4) Pepsin is always present in excess of the needs of normal digestion.

Rehfuss[3] has devised a stomach tube which he is able to insert into the stomachs of human subjects and leave there for varying lengths of time without discomfort or irritation. The subjects, after swallowing this tube, are given test meals, and, by removing small amounts of the of stomach contents at five minute intervals, he is able to follow the curve of digestion. Hawk, Rehfuss, and others at the Jefferson Medical College have obtained much interesting data on the composition of normal gastric juice. A résumé of this is found in the article cited above. They conclude: (1) the acidity of the pure secretion varies between 0.3 and 0.4 per cent of HCl instead of the 0.2 per cent of the clinicians. (2) There is a definite psychic secretion varying from sixty to eighty minutes, perhaps longer, if the stimulation is kept up. (3) There is no latent period. (4) The chemical secretion comes early in the first hour. (5) After the administration of atropine there is a reduction in both the quantity and acidity of the psychic secretion.

The chief point of difference in the results of Carlson and of Rehfuss and Hawk seems to be in regard to the percent of acid in the gastric juice when it is secreted. This can be explained by the fact that Carlson worked on the unmixed juice, while under the Rehfuss method the tests were upon the mixed gastric contents.

Talbot[4] used the technic of Rehfuss in determining the secretory curve of a number of normal individuals. He concludes that the contour of a normal curve of gastric secretion depends upon (a) intensity and duration of appetite secretion induced by test meal, (b) amount of gastric mucus, (c) concentration of food secretion, and (d) emptying time of stomach.

Rehfuss and Hawk and others[5] confirm Carlson's finding that the ingestion of 0.5 per cent HCl is followed by a fall of acidity to about 0.2 per cent due to the regurgitation from the small intestine. They

[3] Rehfuss, M. E., The Normal Gastric Secretion, *Amer. Phil. Soc.*, 55, (1916) p. 461.

[4] Talbot, E. S., *Jour. Amer. Med. Assn.*, 66, (1916) pp. 1849–52.

[5] Spencer, Meyer, Rehfuss and Hawk, Effect of Duodenal Regurgitation on Gastric Function, *Amer. Jour. Physiol.*, 39, (1916) p. 459.

question Cannon's finding that free acid is necessary for the opening of the pylorus since the stomach emptied itself while the contents were still alkaline. The mechanism of duodenal regurgitation has been studied by Hicks and Visher.[6]

Investigating the therapeutic use of bitters as a stimulant to the secretion of gastric juice Moorhead,[7] working on animals, and Carlson[8] on human subjects as well as dogs, both conclude that bitters neither increase the pepsin nor the acid content of the gastric juice. Any value they may possess is, according to Carlson, due to psycho-therapy—"Medicine is potent in proportion to its bad taste."

Saxl[9] in a study of carbohydrate fermentation in the stomach concludes that in a stomach with normal motility no fermentation takes place, even when living yeast cells are taken with the carbohydrate food. There is no difference in the degree of digestibility of bread raised by yeast and by baking powder, showing that digestion is not affected by the possible presence of unkilled yeast cells.

Rogers and Hardt[10] and Patterson[11] have studied hunger contractions. The former conclude that tasting acid, sugar, swallowing water, or 0.36 per cent HCl in small quantities (10 to 25 cc.) does not inhibit muscular rhythm, while it immediately arrests hunger contractions.

Optimum conditions for pepsin activity are discussed by Hamburger and Halpern.[12] Pepsin may be inactivated by the addition of salts. NaCl in concentration of 0.1 per cent accelerates the action of pepsin; neutral salts behave similarly. Alkaline salts are much more strongly inhibitive. HCl inhibits in concentrations of 0.7 to 0.9 per cent.

Maxwell[13] found that colloidal starch adsorbs pepsin. According to this author one of the most important functions of the ptyalin of the saliva is to hydrolyze the starch to non-colloidal forms.

[6] Hicks and Visher, The Mechanism of the Regurgitation of Duodenal Contents into the Stomach, *Amer. Jour. Physiol.*, 39, (1915) pp. 1–8.

[7] Moorhead, Louis D., *Jour. Pharm.*, 7, (1915) pp. 577–589.

[8] Carlson, A. J., *Jour. Amer. Med. Assn.*, 64, (1915) p. 15.

[9] Saxl, Does Carbohydrate Fermentation Occur in the Normal Stomach? *Wein Klin. Wochschr.*, 28, (1915) pp. 1135–36.

[10] Rogers and Hardt, The Relation Between the Digestive Contractions of the Filled and the Hunger Contractions of the Empty Stomach, *Amer. Jour. Physiol.*, 38, (1915) p. 273.

[11] Patterson, J. L., Comparative Studies in the Physiology of the Gastric Hunger Contractions in the Amphibia and Reptilia, *Amer. Jour. Physiol.*, 40, (1916) p. 140.

[12] Hamburger and Halpern, *Arch. Intern. Med.*, 18, (1916) pp. 228–234.

[13] Maxwell, The Relation of Salivary to Gastric Digestion, *Biochem. Jour.*, 9, (1915) pp. 323–329.

There has been less work reported on salivary digestion. Gies[14] finds that acid saliva after filtration may be alkaline due to the separation of colloidal acid mucinate. This invalidates many conclusions formerly reported on the reaction of saliva since filtered saliva was so frequently used for the tests. Marshall[15] discusses the relation of the reaction of saliva to dental caries. Halta[16] found that the salivary diastase content was not directly influenced by the kind of food. Tannic acid in small amounts inhibited the diastatic action of the saliva while sodium nucleinate magnified it tenfold when in a concentration of 1.5 per cent. Below this concentration there was no effect and above 3 per cent it inhibited action. More of the diastatic enzyme was found in the saliva secreted during chewing than in that spontaneously flowing into the mouth. Saliva secreted under the influence of citric acid was very high in diastatic power.

In a study on the effect of excluding the pancreatic juice from the digestive tract, Pratt[17] finds a diminished absorption of nitrogen and fat, only 75 per cent of the nitrogen and 66 per cent of the fat being absorbed. Long and Hull[18] in their experiments on the administration of ferments as remedies in disorders of digestion, using commercial digestive extracts kept under varying conditions, conclude that under the conditions normally present in the stomach a portion of an active trypsin is unimpaired by the action of pepsin and acid, and passes in the chyme. When the acidity is reduced in the intestine this produces a normal protein digestion. Commercial trypsin given by mouth should then be effective. Carlson[19] shows that when secretin is given by mouth it is destroyed before reaching the blood and so is non-effective in stimulating the flow of the pancreatic juice. In greater concentration it is effective if injected intravenously, but the preparations at present are not pure enough for such use.

Okada[20] finds the reaction of the bile varying from alkaline to acid. In

[14] Gies, W. J., An Interesting Fact Regarding the Reaction of Saliva with Phenolphthalein, *Jour. Allied Dental Soc.*, 11, (1916) pp. 273–274.

[15] Marshall, J. H., An Acidmetric Study of the Saliva in the Relation to Diet and Caries, *Dental Items of Interest*, 38, (1916) pp. 116–127.

[16] Halta, Diastatic Action of Human Saliva, *Mitt. Med. Fak. Univ. Tokyo*, 14, (1915) No. 3. *Chem. Abs.*, 10, p. 1679.

[17] Pratt, Joseph N.. Effect of Excluding the Pancreatic Juice from the Intestine on the Absorption of N. and Fat, *Amer. Jour. Physiol.*, 40, (1916) p. 146.

[18] Long, J. H., and Hull, Mary, Assumed Destruction of Tyrosin by Pepsin and Acid, *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 1620–1638.

[19] Carlson, A. J., Has Secretin a Therapeutic Value? *Jour. Amer. Med. Assn.*, 66, (1916) pp. 178–185.

[20] Okada, Reaction of the Bile, *Jour. Physiol.*, 50, (1915) pp. 114–118.

fasting animals the acidity is higher than after feeding; various kinds of food had no influence on the acidity. Rogers[21] found that bile modifies the intestinal flora by favoring the development of certain bacteria, such as B. coli, at the expense of certain others, notably anaerobic organisms which are the most important factors in toxicity and putrefaction. Of still greater importance is the fact that it diminishes the production and action of bacterial enzymes and neutralizes the intestinal toxins.

Gurewich[22] made a study of the intestinal digestion in a person seven months after 157 cm. of the ilium had been removed. He found that only 52 per cent of the nitrogen was assimilated and the fats were but partially digested. The patient was gaining in weight in spite of a persistent diarrhoea.

Higgins[23] determined the time elapsing before alcohol and sugars may be utilized by a study of the respiratory quotient. He finds: (1) Alcohol begins to be burned in appreciable quantities in from five to eleven minutes after taking. With some subjects the combustion began sooner than with others. (2) Sucrose, lactose, and levulose begin to be burned quite as soon as alcohol if not sooner. (3) Glucose and maltose are not utilized as soon as the other sugars or alcohol. Approximately twenty to thirty minutes elapse before their combustion plays an important part in metabolism.

During 1915 there were two researches reported on the comparative digestion and absorption of fats. Langworthy and Holmes[24] conclude from a series of experiments on animal fats that fats of as low or lower melting point than that of the body fat are capable of more complete assimilation than those of higher melting point. These experiments are being continued on many different kinds of fat. Hawk and his co-worker[25] show that hydrogenated fats are as satisfactorily digested and utilized as the natural fats. (See also work reported on fat in Bibliography of July JOURNAL, p. 399.) This conclusion has been supported

[21] Rogers, The Anti-Putrefactive Role of the Bile, *Ann. Inst. Pasteur*, 29, (1915) pp. 545–550. *Abs. Chem. Abs.*, 10, p. 1050.

[22] Gurewich, Intestinal Digestion in Man After the Excision of a Large Part of the Lower Intestine, *Abs. Jour. Amer. Med. Assn.*, 65, p. 2128.

[23] Higgins, H. L., Rapidity with which Alcohol and Some Sugars may Serve as Nutriment, *Amer. Jour. Physiol.*, 46, (1916) pp. 258–265.

[24] Langworthy and Holmes, Digestibility of Some Animal Fats, U. S. Dept. Agr. Bul. 310 (1915).

[25] Smith, Miller and Hawk, Studies on the Relative Digestibility and Utilization by the Human Body of Hydrogenated Fats, *Jour. Biol. Chem.*, 23, (1915) pp. 505–511.

by various investigators abroad. This is important in view of the increasing use of the hydrogenated fats as food. Carlson and some of his co-workers[26] determined the utilization of glucose by white rats. They found they grew well when this was added in large amounts. A post mortem examination revealed no lesions that could be traced to glucose. There seems to be no reason why commercial glucose should not be used as food.

Blake[27] worked upon the chemical composition and digestibility of bread. He could find by means of the polariscope no reason for the greater palatability of homemade bread. It would seem that under physiological conditions most of the amyloses are changed to dextrine in the mouth and these dextrines and most of the amylopectin and its products of hydrolysis are digested in the stomach. The amylocellulose is mostly digested in the intestine. Stale bread digests very slowly unless its gluten is completely broken down.

Langworthy and Holmes[28] in a study of immature veal find that it is quite as well digested and absorbed as other meat. The old idea of the indigestibility of very young veal is apparently only a prejudice and entirely unwarranted. The same authors[29] find that when the hard palates of cattle are ground and made into beef loaves about 86.8 of the nitrogen is utilized. This is somewhat less efficient utilization than in the case of other meats but more efficient than in the case of the nitrogen from vegetable foods.

Bateman[30] has published some interesting results upon the digestion of egg-white. He found that raw eggwhite in any large quantity may cause diarrhoea in dogs, cags, rabbits, and man. It is utilized only to the extent of 50 to 75 per cent. After several days subjects acquire a certain tolerance so that its utilization is improved and it no longer causes diarrhoea. Eggwhite may be made more digestible by coagulation by heat, by precipitation with alcohol, or by treatment with chloroform, ether, acids, alkalies, or pepsin. Egg yolk either raw or cooked is excellently utilized.

[26] Carlson, Hektoen, and Le Count, Effects of Commercial Glucose when Fed to White Rats, *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 930–936.

[27] Blake, J. C., Digestibility of Bread, *Jour. Amer. Chem. Soc.*, 38, (1916) pp. 1243–1260.

[28] Langworthy and Holmes, Digestibility of Very Young Veal, *Jour. Agr. Research*, 6, (1916) pp. 577–588.

[29] Langworthy and Holmes, Digestibility of Hard Palates of Cattle, *Jour. Agr. Research*, 6, (1916) pp. 628–641.

[30] Bateman, The Digestibility and Utilization of Egg Protein, *Jour. Biol. Chem.*, 26 (1916) pp. 263–291.

THE HOME ECONOMICS PRACTICE HOUSE AT THE OREGON AGRICULTURAL COLLEGE

AVA B. MILAM

Head of Home Economics Department

In June, 1916, the School of Home Economics of the Oregon Agricultural College added to its curriculum a Practice House course offered as an elective subject (½ credit per week) for juniors and seniors.

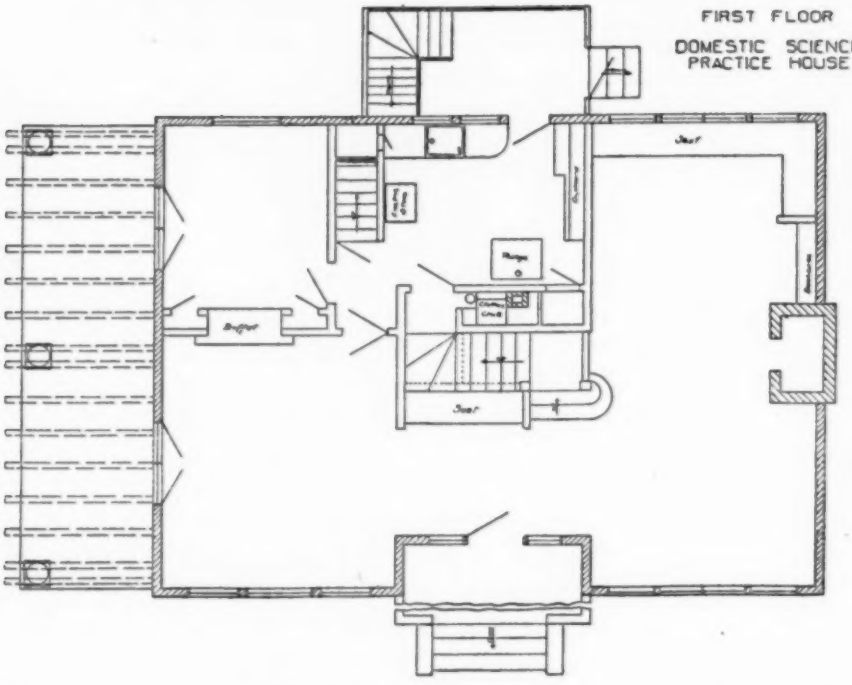
Each student electing this course spends six weeks in the Practice House, and while there is expected to carry not more than 14 additional credits, making her total registration 17 credits for the entire semester.

Changes in the personnel of the house are made every three weeks, so that no more than five or six new students assume their duties at one time. The change of instructors is made at a time when all the students are familiar with the household duties.

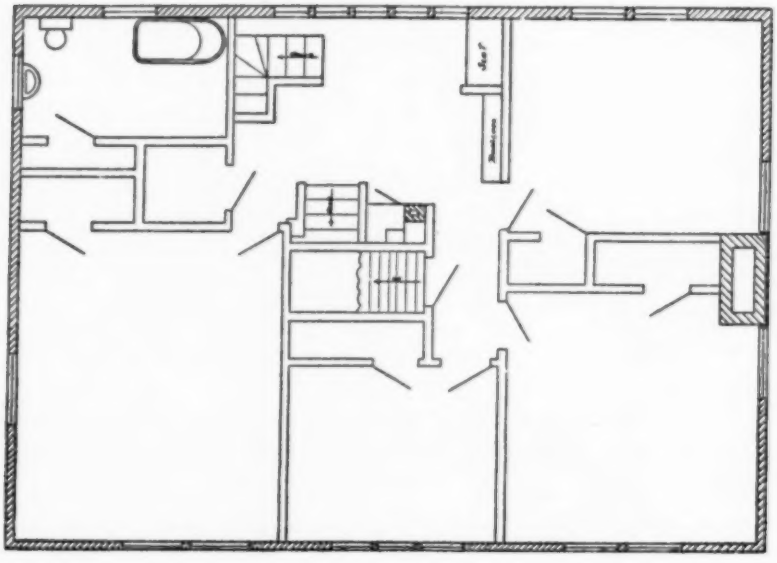
The course is conducted by six members of the Domestic Science staff, who serve in the capacity of resident instructor for a period of from four to eight weeks each. This temporary arrangement was considered advisable for the first year, and the most significant result hoped from such a plan was more thorough acquaintance and interest, on the part of the department as a whole, with the problems of the course, and, therefore, better solutions to these problems. The plan to have one instructor (preferably one who has had experience in the house) in charge of the course during the subsequent years was put in operation in September, 1916.

The building is not owned by the college but leased with an option to buy. The Domestic Science Department pays a yearly rental of $360, $50 for taxes, and $50 for the upkeep of lawn. College rates are obtained for electricity, water, and lights. The college has spent $325 in the purchasing of single beds, bedding, towels, dining room furniture, and kitchen range. Some of the furnishings were left in the house by the owner. The living room was furnished with rugs, wicker chairs, settees, and table, presented by the Oregon Commission of the Panama Pacific International Exposition as a token of appreciation for the work of the young women of the Domestic Science Department of the college in conducting a lunch room in the Oregon Building during the Exposition. The kitchen has a wood and an electric range, and the laundry a water motor washer, electric irons, and the necessary equipment of a modern home laundry.

FIRST FLOOR
DOMESTIC SCIENCE
PRACTICE HOUSE



SECOND FLOOR
DOMESTIC SCIENCE
PRACTICE HOUSE



It is hoped that the college will purchase the house in perhaps two years and at that time a few changes will be made, namely: the wall between the breakfast room and kitchen will be taken out, giving us the larger kitchen, that we need. The large attic will be converted into a sleeping room by putting in dormer windows and changing it slightly. This will make it possible for the rooms on the second floor to be used for dressing rooms and study rooms.

Each of the eleven students in the house is charged $5 per week. No charges are made to the instructor. The house is entirely self-supporting. Thirty-three cents per day per individual is allowed for food material, thirty-five cents for each dinner guest, and twenty-five cents for each breakfast and luncheon guest. Many staples are bought in as large quantities as should be bought in the average home where economy is considered. The other materials are purchased by the individual managers, who pay cash and take receipts, so that accounts are kept with little difficulty. At the end of each manager's régime, her account is submitted to the instructor in charge and an inventory is taken which is handed on to the subsequent manager. So far, all but one manager has kept well within the amount allowed for food material.

The following outline indicates the division of the work:

Hostess and manager. Superintends the house, holding each girl responsible for her special duties. Plans all meals, does all the buying, and pays all the bills.

Cook. Assists the manager with planning all meals and does the cooking. Cares for the kitchen, kitchen closets, and refrigerator.

Assistant cook. Assists the cook, sets table for meals and prepares the dishes for dishwasher after meals. Washes dishes on wash days.

First maid. Cares for the dining room, living room, and front stairs. The floors are wiped twice a day. She is also responsible for the fire in the fireplace.

Second maid. Sweeps the walk, porches, pergola, and basement stairs. Cares for the furnace and basement. Serves the meals.

First chamber maid. Cares for two west bedrooms, upstairs hall, and back stairway. Assumes the duty of an assistant laundress on wash days.

Second chamber maid. Cares for east bedroom, faculty member's room, and the bath. Assumes the duty of third assistant laundress on wash days.

Head laundress. Gathers and sorts clothes. (The laundry consists of first and second cooks' personal laundry, table linen, doilies, and pillow cases. This gives the students practice in home laundry problems. The sheets, hand, bath, and dish towels are sent out.) Superintends washing, assisting with the work. Keeps the linen in order.

First assistant laundress. Assists head laundress. Wipes dishes every day except wash day.

Dishwasher. Washes dishes every day.

General helper. Cares for down stairs bedroom. Renders assistance wherever needed. Takes care of attic.

These positions are held for a period of five days. Each student, as far as possible, advances from the least important to the most important position. Each student is expected to hold the position as hostess and manager, either cook or assistant cook, first maid or general helper, second maid, first or second chamber maid, head laundress or first assistant laundress, and dishwasher. Each student assumes her duty immediately after breakfast on the day of her appointment.

The following quotation from the student paper indicates the general attitude of the students who have taken advantage of this course:

> No domestic science senior student can afford to miss this course. It is a test and seal on the work of the three previous years. Her returns from this course are manifold; she learns coöperation in working with others; she develops confidence and ingenuity; promptness is forced upon her, for meals must be served on scheduled time. Besides this and the general knowledge of how to manage a home, she learns to know what she herself knows and is brought to realize her own capacity. There is a social life present in the house unlike any other obtained in college life. The students of the house say in unison, "You cannot afford to miss it, for it is certainly worth while."

This course is proving to be one of the most popular and valuable courses in the school. It is giving not only valuable experience to the young women who are electing the work, but it is affording the Domestic Science staff an excellent opportunity to come in closer personal contact with the students, from which much is to be gained. Through this course the department is better able to estimate the girl's ability to apply her knowledge in a practical way, to manage, to coöperate, and to meet emergencies; her judgment, honesty of purpose, and ideals can be judged much more fairly than is possible from her record in any other course in the school.

FOR THE HOMEMAKER

FOOD AND THE BUDGET

HELEN LOUISE JOHNSON

Something over sixteen years ago there was published the first edition of Mrs. Ellen H. Richards' book on *The Cost of Living*. It begins with statements concerning the prevailing high cost of household necessities, and the great waste daily occurring in the individual homes of this country.

In the discussion of the adjustment of family budgets, this statement is made:

> From the examination of various budgets and from observation of many families, as well as from twenty-five years' experience in housekeeping, I am convinced that the tendency to extravagance in the American household comes in the two columns of food and operating expenses. In food I believe the trouble is largely one of waste.

Nearly every year since 1900 there has been more or less public discussion of the increasing price of various household commodities, food stuffs usually being the center of attack. During the fall of 1916 this matter of the high cost of living had reached a sufficiently acute stage to cause considerable agitation, and to have drastic remedies suggested and applied, among them the unintelligent method of the boycott. For no one can possibly argue that a boycott either educates or influences the primary cause of any effect. It is a method of punishment or intimidation, and may or may not reach the actual offenders.

The prices of other necessities such as coal, paper, shoes, ink, and so forth, have risen, but no one talks of boycotting these things. Yet an actual pre-concerted plan was put in motion throughout certain parts of the country to secure united action in boycotting eggs, butter, meat, and other foods in their turn. There is no far-reaching effect in a boycott, and it is open to question whether this action influenced prices in any way. The natural economic laws relating to supply and de-

mand would produce the same result as a spectacular boycott advertising a campaign which many cannot believe was designed for the ultimate benefit of the consumer.

It is to be remembered that all eggs put in storage in April must be on the market in December, for no cold storage eggs can be sold after the time limit of eight months has been reached. A few years ago when eggs were boycotted in Philadelphia it was believed to have been done in behalf of the cold storage men, who were caught at the expiration of the time limit with a large supply of eggs on their hands. The advertising campaign of a city-wide boycott and a dropping of price unloaded these eggs as the purely normal demand could not have done. It may be possible that the producers themselves have been behind the boycott. Under any circumstance the condition demands study rather than advertising. The causes of inflated prices should be analyzed.

To the situation of abnormal demand caused by the war, and an actual decrease in the production of certain staple food stuffs, there has been added a condition of railroad transportation which of necessity affects cost. And in place of a feverish agitation, or a publicity campaign that affords excuse for a wholly unnecessary rise in the prices of many things, there should be an intelligent survey of the facts, in the hope of discovering a possible removal of undue causes, rather than an alleviation of symptoms which will break out again and again.

There has been a widespread demand that someone do something, as well as that the government investigate. The Federal Trade Commission has been mentioned as the proper body to carry on such a movement, while meantime various states have been trying to round up suspected offenders in cornering the market for undue profits. And, as usual—because of its large membership and well-known influence, among the first organizations approached is the General Federation of Women's Clubs.

Before definite action is taken by any organization whose membership and methods are such as to influence and modify public opinion, the situation should be clearly defined, its factors recognized and its causes discovered. To apply a cure to symptoms is neither far-reaching nor intelligent. To continue agitation is but to add to high prices by a well sustained advertising method. And employing expensive commissions to investigate has as yet not been shown to be successful in regulating prices.

As a matter of fact there is no one single cause that has produced the present high cost of living, unless we can ascribe it to the general and unprecedented prosperity of the country. Even that must be analyzed if we are to comprehend its reasons for being and the ultimate results. There are immediate and unavoidable reasons for the increased prices of many commodities. There are some less recognized avoidable ones. But we are not going to find a cure in prosecuting trusts or individuals, in boycotting any producer or his product, or in costly attempts to do away with the needed middleman. We can find it only in the very difficult and much slower process of education, for the fundamental underlying cause of the condition is the wasteful, unintelligent, or uneducated procedure in each individual home.

As a matter of fact we would have very little need to worry over the high cost of living if each of us based her own living upon her own needs and the needs of her family rather than upon their wants. For one of the great contributory factors in the present situation is the rapid increase of extravagant wants with the too sudden prosperity occurring when wages have been quickly raised, and every man can have a job if he will take it.

The questions to be asked and answered are three. First: Are the newspapers stating the actual facts relating to increased prices, or is it a well-planned publicity campaign having increased profits as its ultimate purpose? If this is answered in the affirmative, and it is acknowledged that the items of food, clothing, and shelter have so risen in price as to make living very difficult for those whose incomes have not increased, then the second question arises. What are the underlying causes of this increased cost and price?

At this particular time it is most needful that all consumers, men and women alike, should clearly define the difference between cost, price, and value. It is failure to do this that not alone adds to cost, but increases prices. If we today were all talking about the decreasing purchasing power of the dollar rather than the high cost of living, there would be a positive gain in clearing our mental vision toward the undesirable result of that which, in some degree at least, can be classed as gossip.

If, on the other hand, we could definitely ascertain that the high cost and increased prices have been vastly exaggerated, we might be induced to make more quickly those adjustments which would relieve the situation at least in part.

Concisely stated, the three questions are as follows: Have the prices of food stuffs risen unduly? What has caused this condition? What can be done about it? And the first must be answered by the consumer rather than any food official or commission, state or national.

It takes but a cursory survey of the winter quarterly of a large and well-known retail grocery house to establish without question that while there has been a spectacular advance in meat, eggs, butter, flour, sugar, and some few other things, there has been a well defined, if limited increase, in the prices of certain food articles, while others remain the same. Tea, chocolate, and cocoa are quoted at exactly the same prices given in 1915–1916. Coffee has varied so little as to warrant the statement that it costs no more. The products manufactured from flour, such as macaroni and crackers, and many farinaceous foods, rice, hominy, oatmeal, and others, have risen in peculiar ways. The finest head rice is quoted both years at nine cents a pound, while another kind has increased a cent a pound, yet the remaining brands are unchanged in price. Macaroni and spaghetti have increased from one to three cents a package, while some brands of hominy remain the same, and others have risen three cents on a three pound package. Some breakfast cereals have advanced a cent a package, some two, some three, four, and five.

The canned soups show strange vagaries in price, one firm increasing the price of certain kinds from $3.35 to $3.60 a dozen cans, while of others, in which chicken stock figures the price is reduced from $3.75 to $3.60 a dozen. Sundry other soups remain exactly the same, while different brands of tomato soup have increased from six to ten cents on the dozen.

The quotations for hams, bacon, and sausage are from three to six cents more a pound, depending upon the brand. Canned meats have increased from six to twenty cents a can; fish from ten cents a kit to four cents a tin, salmon being two cents more a tin for each size. Then this strange thing occurs. One good brand of American canned vegetables has not changed in price, while the next quoted has increased from three to five cents a can. Some firms quote but a limited variety of vegetables in place of the usual number, and all corn and beans show a considerable advance in price.

A close study of canned and preserved fruits reveals queer things. Take apple butter: one firm quotes forty cents a pound both years, the second thirty-two cents last year, forty this. Canned black-berries

and blue-berries are the same, while peaches rose twenty-five cents a dozen cans on nearly every brand. On the other hand, the fruits canned and preserved in glass by women who have established reputations in this work have not changed in price, and the same is true of two well-known firms whose goods retail grocers handle.

However, because one firm has increased the price on an output of preserved fruit and another does not, should not be taken as an indication of a desire for highway robbery by the first firm. There are certain established facts which must be recognized before any one is justified in making accusations, or in trying to force prices by methods that can only be adopted by the few.

Some of the facts are that there was actually a considerable decrease in the production of certain food materials this last year, while there was a very great demand upon our supply. This argument at once brings out the suggested remedy of an embargo on food stuffs without questioning as to whether the government, with due consideration to our neutrality, can any more prohibit food sales than those of munitions. No other one thing so needs to be said again and again, and yet again, as that we must look before we leap, not alone at the distance we are trying to cover, but why it is desired that we act at all.

The present agitation over the high cost of living, egg boycotts, and frenzied methods of immediate cure for a situation which has to do with all the intricacies of the industrial conditions, made acute and difficult by the war, is only adding to prices without remedying matters in the least. And it is affording the desired opportunity for many things.

But what is to be done about it? Here are a large number of families living on salaries which have not increased. Wages have, and with the full dinner pail has always come an increased price for that which fills it. But thousands of us, clerks, teachers, professors, stenographers, and others, are caught between the upper millstone of prosperity prices, and the nether one of a fixed income.

Given $2500 and a family of five, in 1915, 31.2 per cent of the income sufficed for food. This left 68.8 per cent, or $1720, for the other four divisions of the budget. Today the $15 a week does not suffice, and $18, or $936 a year (37.44 per cent), is being used, leaving but $1564 for the other needs. What is to be done?

There is but one thing to be done, and that is to learn how to choose, to buy for nutrition instead of for the palate, and to feed the family for efficiency in place of mere pleasure. If may not be easy, but it is

necessary and right. Adequate, nourishing food is still to be found for $15 a week for a family of five, but it has to be intelligently, carefully purchased, and prepared and cooked in good, wholesome ways.

It is trite to say that women are the consumers, but it should be repeated until all realize what that statement means and implies. There are few American women today who do not hold and disburse the household funds, buying such food, clothing, and shelter as the income is able to provide. There are some who control the entire expenditures for the family, and many who have a share at least in planning what shall be done. And of all these thousands there are comparatively few who realize that consumption is a business based on business principles and procedure in exactly the same way that production is.

The buyer of any line of goods for a retail or wholesale house could not hold his position a week if he knew as little concerning the actual business of buying as the average housekeeper knows about the providing of household necessities. This is not the time for agitation. It is the time to seriously study the situation both in our individual and community procedure. It is the time to realize that the students of economics continually bring in the verdict of "waste" when the procedure of the American household is tried at the bar of justice. We cannot control the country's waste except by teaching and practising, all over this land, that thrift which is wise use in the home.

If the women's clubs all over the country would unite with, let us say, the Federal Departments of Agriculture and Labor, and the American Home Economics Association, in a definite study of the factors that control the transportation, distribution, sale and use of our food supplies, with the end in view of publishing an actual report of the exact conditions, an undoubted and very great service would be rendered our homes. But it should be a carefully planned and properly organized survey, to which all sides contribute testimony, and this means that the consumer herself would have to study her methods of buying and use and be willing to acknowledge her shortcomings, as well as to be ready to learn new ways. The "woman who spends" is not the only responsible person but she is one of the group, and producers, distributors, consumers, and officials should get together to learn the facts and discuss ways and means.

THE DASHEEN

Many departments of the United States Government are interested in developing new varieties of foods, or in promoting the introduction of foods into new places.

The Bureau of Plant Industry has lately reissued some directions for the use of a vegetable that seems well adapted to cultivation in the southern part of the United States.

The dasheen is used as a staple food by millions of people in tropical and subtropical countries. The plant furnishes long spherical corms,

A hill of dasheens. The large central CORM, with part of leaf stems still attached, is surrounded by the TUBERS, just as they grow.

and large tubers, both of which may be used. The flesh is somewhat gray or violet in color when cooked. It resembles the potato in many respects though it has a delicate flavor of its own.

The question has risen whether increased cultivation of the dasheen might bring it into direct competition with the potato, but this seems

improbable since it is grown only in the south and therefore can hardly actually compete in price with one of a similar nature that is grown successfully in practically all parts of the country.

It seems probable, though, that, as the cultivation of the dasheen is extended, and it comes to be generally known, so that the increased consumption will further stimulate production, the price will fall materially. While the prices which growers receive are not now exorbitant, the fact that the dasheen is shipped north in comparatively small quantities, and appears on the market as a novelty, has resulted in the retail price everywhere being kept at a comparatively high level, usually between 10 and 15 cents a pound. The dasheen contains considerably less water than the potato, and a correspondingly higher proportion of actual food, and this should always be borne in mind in comparing the costs of the two vegetables.

One of the principal points claimed for the dasheen is that it adds another delicious vegetable to that very small class of starchy ones to which it belongs. For certain purposes, it is even more useful than the potato, while for others, the potato will be preferred. While some persons may never care for it, there are others who become very fond of it who do not care for the white potato.

The following rules are given in the leaflet issued by the Bureau of Plant Industry.

BAKED DASHEENS

Dasheens, large or small, may be baked like potatoes in a quick oven. If not already thoroughly cleaned they should first be rubbed or scrubbed to remove the loose fiber from the skin. Small dasheens may be scraped before baking, as they are then more convenient for eating, and the soft crust which forms around them is particularly delicious. Rubbing these scraped dasheens with fat before baking will improve them, or they may be roasted with meat. Large corms should be parboiled for 10 to 20 minutes before baking, and may be cut in half either before or after the boiling. The total time required for cooking is a little less than for potatoes of the same size. Baked dasheens should be served immediately when done.

NOTE.—When uncooked dasheens are scraped they should be handled in water to which a level teaspoonful of sodium carbonate (washing soda or sal soda) to the quart has been added, as the juice of the outer layer of the raw dasheen contains an irritant that, when mixed with water, causes the hands of many persons to sting. This property is destroyed by cooking, the cooked dasheen being as bland as a potato and of a pleasant nutty flavor.

BOILED DASHEENS

Large dasheens (corms) are preferable for boiling, though small ones (tubers) may also be used. They should always be boiled in the skins and may be served thus or with the skins removed. Dasheens do not require quite so long boiling as potatoes of the same size.

In the case of small tubers they are especially good if, after peeling, they are placed in the oven just long enough to melt over them a dressing of butter. When so prepared they can usually be kept standing in a warm place for a short time without becoming soggy. Instead of placing them in the oven the tubers may be fried slightly, either whole or in halves.

RICED DASHEENS

Boil (or parboil and bake) the dasheens in their skins. Remove the skin immediately, rice the dasheen into a heated dish, and proceed in one of the following ways:

(1) Stir in the desired seasoning, as butter and salt, and serve in a warm, covered dish. The butter may be omitted if gravy is to be used.

Milk or cream may be beaten in if desired, as for mashed potato, but dasheens prepared in this way will be rather sticky and some will prefer to omit the milk or cream, or at least to use only a little. Mashing in the ordinary way is not recommended.

(2) Empty in layers into a warmed serving dish, seasoning each layer and omitting the stirring.

(3) Season the riced dasheen as desired and put into a baking dish, with a liberal quantity of butter on top. Bake for 8 or 10 minutes and serve.

SCALLOPED DASHEENS

Pare and slice raw dasheens, putting the slices in layers into a buttered baking dish, and season each layer with butter, salt, etc. Lattice-work slices, made with a fluted slicer, are a little more attractive in appearance than the plain ones, and they do not mat together. Nearly cover with rich milk and bake. Only about two-thirds as much time is required in cooking as for scalloping potatoes. If the corm is used it is well to discard about three-quarters of an inch of the upper or bud end, as it may be tough after cooking. Onion seasoning brings out the dasheen flavor.

DASHEEN CRISPS

Dasheen crisps are especially recommended. They are made by cutting the raw dasheens into lattice-work slices, as for scalloped dasheens, or into fluted slices, and frying slowly to a light brown in deep fat.

DASHEEN SALAD

Boil medium sized or small dasheens in the skin and proceed as for potato salad. It is very important to prepare the dasheens while still warm and to add the dressing at once.

Dasheens may also be stuffed, following the rule for potatoes, but using more butter; fried, either raw or after boiling, using a quick process that they may not become dry and hard; creamed, or made into soup. They may be made into cakes or croquettes, into griddle cakes, or used as a filling for fowl and other meats. Cheese is an acceptable addition to them and onion seasoning brings out the flavor.

HAS THE ICE BLANKET ANY USE?

The principle stated at the end of the article on The Household Refrigerator, in the December number of the JOURNAL, that "Ice should not be wrapped in papers or blankets to keep it from melting; since only by its melting can the food chamber be kept cool" is an undeniable fact in physics. Yet the ice blanket may be properly used, not to keep the ice from melting, but to regulate the source of the heat that it absorbs in melting so that it may not obtain it from the outside air, such as enters through a frequently opened door.

To be effective in cooling the refrigerator, the ice must absorb the heat of the air within the chest. This is cooled by the ice, contracts and becomes heavier, sinks down through the opening in the bottom of the ice chamber, and by contact with the food and the bottom and sides of the ice chest becomes warm and lighter, and is forced up through the openings at the side of the chamber by the cooler heavier air, and again enters the ice chamber. An arrangement then of the ice blanket that will allow this air to come in contact with the ice, but that covers the ice as far as possible from outside air should save the ice and not affect the temperature of the ice chest.

It is a similar principle to that on which the ice cream freezer is constructed so that the heat that is absorbed by the freezing mixture comes from the cream to be frozen rather than from the out door air.

STUDENTS' CONTRIBUTIONS

A COMPARISON OF COMMERCIALLY PREPARED AND HOME PREPARED LUNCHEONS

The object in carrying out this experiment was to try to determine which was really better, from various standpoints, to depend upon commercial foods or to prepare them in the home. The points considered were cost, so far as time, fuel, and actual expenditure were concerned; nutritive value, in terms of calories; flavors, and attractiveness. The work was done by the Advanced Domestic Science Class of the Alabama Girls' Technical Institute, as one problem of the year's work. Each member of the class wrote on one phase of the experiment, and the instructor put the reports together, as a whole, for publication.

Before making the menu it was necessary that visits be made to local groceries, to ascertain what could be bought, and to compare lists thus obtained with others made from an inventory of pantry and garden.

Five menus were then selected, each furnishing the required number of calories. In as much as the guests to be invited were (with one exception) women, doing moderately active muscular work, we determined upon 620 calories, according to Atwater's table. From the five menus, the class chose the following:

COMMERCIAL LUNCHEON

Boiled Ham — Prepared Mustard
Canned Butter Beans
Canned Sweet Potatoes (candied)
Baker's Bread — Creamery Butter
Canned California Peaches — Vanilla Wafers

HOME PREPARED LUNCHEON

Boiled Ham — Mustard Dressing
Butter Beans — Candied Sweet Potatoes
Homemade Bread — Country Butter
Home Canned Peaches — Sugar Cookies

The market price of the ham was 25 cents per pound, but shrinkage, loss in cooking and weight of wrapper increased the price to 42 cents. The peaches are recorded as requiring 4 minutes for cooking. This is the result of a previous experiment in canning a bushel, and cooking fourteen quarts at one time.

The nutritive value of the two meals was approximately the same, and the seasonings used were identical. The cookies probably were higher in food value than the wafers, but not so many were eaten.

The succeeding tables show the method of comparison:

Commercial

FOOD	QUANTITY	COST	TIME OF PREPARATION	TIME OF COOKING
			minutes	*minutes*
Ham	2 lbs.	$0.80	2	
Mustard	¾ bottle	.07	3	
Bread	2 loaves	.10	5	
Butter (balls)	1 lb.	.40	20	
Potatoes	2 cans	.20	2	30
Beans	3 cans	.30	2	20
Peaches	2 cans	.60	6	
Wafers	2 boxes	.20	1	
Total		$2.67	41	50

Cost of materials	$2.67
Labor, 41 minutes, at 15 cents per hour	.10
Gas, 50 minutes, at ½ cent per hour	.004+
Total cost	$2.77+
Served 18 persons; cost per person	0.15+
Average appearance of all dishes	87.5 per cent.
Average flavor of all dishes	86 per cent.

Home prepared

FOOD	QUANTITY	COST	TIME OF PREPARATION	TIME OF COOKING
			minutes	*minutes*
Ham	2 lbs.	$0.84	25	10*
Mustard	¾ cup	.04	10	
Butter (balls)	1 lb.	.30	20	
Bread	2 loaves	.10	45	40
Potatoes	9 (large)	.08	12	30
Beans	3 pts.	.20	45	35
Peaches	1 qt.	.10	30	4
Cookies	18	.09	45	45
Total		$1.75	232	164

*Afterward fireless 2 hours.

Cost of Materials	$1.75
Labor 3.8+ hours at 15 cents per hour	0.57
Gas 2.7+ hours at ½ cent per hour	0.013
Total cost	$2.33+
Served 18 persons; cost per person	$0.129
Average appearance of all dishes	90 per cent.
Average flavor of all dishes	88.7 per cent.

From the experiment we conclude that from the standpoint of cost, flavor, and appearance, the homemade lunch is preferable, but from the time for preparation, and the gas consumed, the commercial is preferable.

EDITORIAL

The Housewife and the Eight-Hour Day. One of the January magazines has an article on The Housewife and the Eight-Hour Day that contains the following remarkable statement.

> At the very outset I should take a mother's attention to her children out of the list of activities which are commonly designated by the term labor. The care of the child is a high privilege which should not be denied any mother. The labor of the household is therefore restricted chiefly to keeping the house clean, preparing its food, and washing its dishes.

In other words, having eliminated, or put in leisure time, the chief and most important occupation of many women in the home, the author shows conclusively that eight hours a day is enough time to spend on household labor. He goes on to say that the mental attitude of the worker transforms the housewife's task into an "opportunity," and that in the "environment of a well equipped kitchen a woman can go with joy to her artistic duties."

Why then not include the hours spent in housework as leisure time and consider them a "high privilege?" Why again leave out the planning of meals, the purchase of supplies, the mending and care of clothing, to say nothing of the making or purchasing of it, the washing and ironing, the answering of telephone and doorbell, no light task in many a household. We would suggest the study of the Syllabus of Home Economics.

The following schedule is offered. "Two hours for breakfast, an hour for lunch, two hours for dinner, and three hours for work around the house are quite sufficient in this systematic way to do all that is necessary for a family of reasonable size. The woman thus furnished has eight hours of leisure (for children, books, clubs, music, entertainment, recreation, exercise) and then eight hours for sleep."

If enough is eliminated even fewer hours might easily suffice. One young married woman, who has determined that housework shall not occupy all her time, finds that between four and five hours daily are

necessary for her family of two, in a seven room house. She is quick and knows how to omit non-essentials. Her laundry is sent out and a woman comes for cleaning one day a week. Breakfast is prepared in many households, my own among the number, for a family of four, in fifteen minutes, with a short half hour for clearing the table and washing the dishes. But this by no means proves that it could be done in this time under other conditions, as in case of a hearty breakfast for farm laborers or where there are little children who must have some special provision made.

It is a venturesome person who can make a general schedule for housework, and an even more venturesome one who can try to persuade the mother that there is not a great deal of downright hard work in the care of children, however great may be the joy and delight in their training and companionship.

Business Training for Women. In former days it was the occasional woman who had to do with business outside the management of her own household. Even within the home her administration frequently was carried on, more or less successfully, without any attention to business principles. Now there are multitudes in the business world, yet it remains true that a large proportion of women have not yet the preparation for any business responsibility, and that the lack of this experience often results in tragedy.

That this need is felt is shown by the fact that various organizations of women are considering the remedy. The General Federation of Women's Clubs is planning the formation of a department dealing with Business, coördinate with Health, Civics, Home Economics, and other departments. One branch of the Association of Collegiate Alumnae has been discussing the question "What can be done to better prepare high school and university girls for financial responsibility." One State University is preparing to offer in connection with its department of Commerce a two hour general course to meet this need.

The question is asked of the JOURNAL whether any other university has developed a course of this kind, and, if so, what is the content of the work. Information will be welcomed.

The JOURNAL has passed its 4000 mark in subscriptions—a gain of over 600 for the past year.

THE QUESTION BOX

Question: What are the latest results of investigations of the effect of alum baking powders on the human system? What are the results in baking powders where an acid other than tartaric acid is used?

Answer: No recent investigations pertaining to the effect of the various baking powders on the human system have been reported. Bulletin No. 13, 1889, of United States Department of Agriculture, Division of Chemistry, gives the composition of the various types of baking powder on the market. Since then these have not materially changed, the present kinds being:

First, Tartrate powders in which the acid constituent is tartaric acid in some form; second, phosphate powders in which the acid constituent is phosphoric acid; third, alum powders in which the acid constituent is furnished by the sulphuric acid contained in some form of alum salt.

All powders come under some one of these headings, although there are many powders which are mixtures of at least two different classes. The conclusions of the board of consulting scientific experts appointed by the United States government to investigate the influence of alum compounds on nutrition and health are given in Bulletin No. 103, United States Department of Agriculture entitled "Alum in Food." The following is quoted:

> Aluminium compounds when used in the form of baking powders in foods have not been found to affect injuriously the nutritive value of such foods.
>
> Aluminium compounds when added to foods in the form of baking powders, in small quantities, have not been found to contribute any poisonous or other deleterious effect which may render the said food injurious to health. The same holds true for the amount of aluminium which may be included in the ordinary consumption of aluminium baking powders furnishing up to 150 mg. (2.31 grains), of aluminium daily.
>
> Aluminium compounds when added to foods, in the form of baking powders, in large quantities, up to 200 mg. (3.09 grains) or more per day, may provoke mild catharsis.
>
> Very large quantities of aluminium taken with foods in the form of baking powders usually provoke catharsis. This action of aluminium baking powders is due to the sodium sulphate which results from the reaction.
>
> The aluminium itself has not been known to assert any deleterious action injurious to health, beyond the production of occasional colic when very large amounts have been ingested.
>
> When aluminium compounds are mixed or packed with a food, the quality or strength of said food has not been found to be thereby reduced, lowered, or injuriously affected.

Recently, however, the question of alum powders has been reopened by Gies, of Columbia (*Biochem. Bul.*, V, 1916, pp. 20–21). Under his general direction several "independent collaborators" have published papers on methods of determining aluminium and promised others on the effects of aluminium in food. Gies' paper of five years ago differed in its results from those of the Referee Board, concluding that aluminium could be absorbed from aluminized foods.

Since the various inorganic salts of phosphoric acid have been used extensively in many nutrition investigations with no untoward results, we may conclude that baking powders containing these are not injurious to the human organism. The tartrates, however, when used in large quantities, have been found to produce untoward effects in rabbits and dogs. We have no evidence that the small amount of tartrates present in various baking powders are injurious. (Underhill, Wells and Goldsmith, *Journal of Experimental Medicine*, vol. 8, pp. 317, 322, 347, 1913).

Question: What is meant by the term vitamines?
What is meant by growth determinants?

Answer: Formerly it was believed that a diet consisting of adequate amounts of suitable protein, carbohydrates, fat, inorganic constituents, and water would fulfill all the dietetic needs of a living organism. Recent investigations have shown, however, that animals fed suitable amounts of these food stuffs, in chemically pure form, fail to grow and finally die. When a fat soluble complex, associated with certain fats—notably, egg, butter, and beef suet—and a water soluble substance, found in fruits and vegetables especially, were added to the above diet, normal growth was resumed. These two substances, the chemical nature of which has not yet been determined, are called by some investigators "vitamines;" by others, "food accessories," still others designate them as "growth determinants." McCollum of the Wisconsin Experiment Station has introduced the terms "Fat Soluble A" and "Water Soluble B," believing that when the chemical nature of these is known, suitable names can be substituted. Certain deficiency diseases, particularly beri-beri, scurvy, and perhaps pellagra are caused by too little of either one or the other of these essential substances.

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BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Clothing and Health. By HELEN KINNE and ANNA M. COOLEY. New York: The Macmillan Company, 1916, pp. 302. $0.65. By mail of the Journal, $0.71.

The book is written for the purpose of giving girls of elementary school age a knowledge of sewing and garment making, together with information which will train them to plan well and to buy wisely the clothes they wear, and the fabrics in the home.

It is made up of six chapters, each devoted to a particular phase of sewing or clothes. The subjects treated include the simplest forms of sewing, garment and gift making, caring for and repairing of clothes and of household linens, and discussions of problems confronting the shopper in selecting and buying fabrics and ready-made clothing.

Each chapter is subdivided into lessons, each of which emphasizes a particular point of the work in hand.

The form of the book is simple and direct. It is readable and easy to understand. The information given is always coupled with experiences already known to the student, and is based upon the real and practical in every day life.

There are many novel features which make this little book a valuable aid to young teachers. It suggests originality in handling sewing classes as against the more formal school-room methods frequently used. The scope of the subject matter given shows that the authors consider it necessary to teach more than merely how to sew if girls are to be able to dress well. They must have a more all-round training. The careful selection of materials as to purpose and suitability must have attention. Various points as to design, and the hygienic necessities also call for consideration. Clothing properly cared for will be more attractive and last longer than that carelessly looked after. The chapter devoted to gift making introduces the social side of the subject in its thought for others. Oftentimes this proves to be one of the greatest inspirations to a child learning to sew. The last chapter presents some of the labor problems in a way which cannot fail to interest the little girls, destined to be the mothers of tomorrow. It is through the interest of the shoppers that the conditions of working women may be improved.

Unless the whole book were quoted its good points could not all be told, for every page brings its helpful suggestion. If there are points where some changes would suggest themselves, they are of such minor importance that they are lost in the feeling of genuine appreciation of this practical, helpful addition to our libraries—"Clothing and Health."

MARTHA H. FRENCH.

A Laboratory Manual of Foods and Cookery. By EMMA B. MATTESON and ETHEL M. NEWLANDS. New York: The Macmillan Company, 1916, pp. 325. $1.50. By mail of the Journal, $1.62.

The authors' purpose in this book is to approach the study of foods and cookery through experimental work in chemistry, bacteriology, and biology. It is expected that "the performance of the experiments and the answering of the questions arising from them, is to give a basis for discussion of procedure used in cookery, and should give such a grasp of the principles involved as will enable the student to work without recipes." Such a statement makes the home economics teacher anticipate a type of

book useful to those who feel that the most economical as well as the most efficient method of teaching foods and cookery is to make clear the underlying principles.

The subject matter of the book is organized in part under the food principles and in part under types of dishes as, for instance, "Desserts" and "Sugar and Candy." Each subject such as cereals is preceded by experiments relating to the topic and these experiments are followed by questions pertaining to the subject. Following the general topic is a group of recipes involving the use of food materials studied. About one-half of the book is devoted to these recipes. The book covers the general work on cookery but makes no attempt to introduce the problem of meals.

A careful review of the book indicates that the material included is accurate. The usefulness of the book will depend, however, largely upon the grade of students for which it is used. The conclusion of the reader is that the book is planned, not for high school students, but for those of more mature years. Such statements in the book as the one which follows serve to place it out of the realm of high school books. "Fruit is also valuable for its antiscorbutic property and often seems to act as a mild diuretic." The book seems to be planned for students with some previous general knowledge of the subject. The experiments are very suggestive of some of the work that may be done to clarify the questions of proportions and processes but seem at times more complicated than is necessary to bring out the essential points. As a result the principles underlying the various problems do not stand out clearly.

If the book were closely followed and the recipes used as indicated, considerable time would be wasted in the preparation of large numbers of dishes where the principles have not yet been discussed. For instance, a series of custards follows the work on milk though there has been no work of any sort on eggs. Many of the questions following the experiments are excellent. Some, however, do not take cognizance of the preparation of the students. For example, under cereals is found the following question on milk, no work on milk having been given up to this point. "What possible objection could be raised to the long cooking of milk when used as a liquid with cereals?"

The book shows careful work without the inaccurate and extreme statements so frequently found in food and cookery texts. It is to be commended to those teaching work beyond the high school as a very suggestive laboratory manual to use where the experimental method is desired. Whether the book accomplishes the aim of the authors will depend upon the skill of the teacher in securing a close application of the experimental work to the cookery processes.

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The following pamphlets are issued by the publishers listed:

Bridgman's Popular Food Charts. By Eda Lord Murphy. Size 2 feet 4 inches x 3 feet 6 inches. No. 1. The Body—A Building; No. 2. The Regulating Foods; No. 3. Proteins or Body Builders; No. 4. Carbohydrates and Fats. E. C. Bridgman, Pub., 86 Warren St., New York, N. Y. $2.00 per set.

Course of Study for Household Science Clubs. Illinois Farmers' Institute, Dept. of Household Science, Circular No. 3. By Officers of the Dept., Springfield, Ill., July 1916, pp. 28.

Exhaust and Vacuum in Canning. By A. W. Bitting. Washington, D. C.: Research Laboratory National Canners Association, Bulletin No. 8, Sept. 1916, pp. 54.

Guide to Menu Making. Arranged by Anna Merritt East. Curtis Publishing Company, Philadelphia.

London County Council. Evening Institutes. Suggestions to Responsible Teachers of the Domestic Crafts and Home Organization, and Suggestions for Syllabuses of Instruction in the Following Subjects:—Laundry Work, Cookery, Needle Crafts, Housework and Home Organization, Scientific Method in Relation to the Domestic Crafts, Home Planning, Domestic Handicraft, Simple Embroidery and Design, and Domestic Calculations. 1916–17. R. Blair, Education Officer.

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Utilization of Honey and Wax. J. Tinsley, *West of Scot. Agr. Col. Bul.* 69 (1916), pp. 63–72.—Recipes are given.

Unique Nonrefrigerative Methods of Food. L. Lodian, *Refrigerating World*, 50 (1916), No. 6, pp. 25–28, figs. 3.

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NEWS FROM THE FIELD

HOME ECONOMICS MEETING TO BE HELD IN CONNECTION WITH THE N. E. A., IN KANSAS CITY, MARCH 2, 1917

The President, Dean Catherine MacKay, Iowa State College, presiding

MORNING SESSION

Greetings from the American Home Economics Association
Dean Catharine MacKay, Iowa State College, President of the American Home Economics Association

Some Problems in Home Economics in the Public Schools
Mrs. Henrietta Calvin, Specialist in Home Economics, Bureau of Education, Washington
J. H. Francis, Superintendent of Schools, Columbus, Ohio

Project Work in Teaching Home Economics, its Value and its Limitations
Dean W. W. Charters, University of Missouri

The School Lunch as a Project in Teaching Foods and Cookery in the Elementary and High Schools
Miss Essie M. Heyle, Supervisor of Home Economics, Public Schools, Kansas City, Missouri
Mrs. Mary Baker, Vocational High School, Memphis, Tennessee
Miss Jenny Snow, Department of Household Arts, Chicago Normal College, Chicago

AFTERNOON SESSION

Fundamental Inter-relation of Courses in Home Economics and other High School Subjects
Miss Josephine T. Berry, Chief of Division of Home Economics, University of Minnesota

Teaching the High School Students their Responsibilities as Consumers
Miss Hildegarde Kneeland, Department of Home Economics, University of Missouri

A Consideration of the Subject Matter of Textiles as a Part in the Teaching of Clothing
Mrs. Kate Kinyon, Supervisor of Household Arts, Public Schools, Lincoln, Nebraska

Principles of Design in Relation to the Teaching of Clothing and House Furnishing
Miss Araminta Holman, Supervisor of Home Art, Kansas State Agricultural College
Miss Ethelwyn Miller, School of Education, University of Chicago

The National Education Association, Department of Superintendence, February 26 to March 3 presents a program full of interest to the teacher of Home Economics who sees the relation of her own work to that of other departments of education. Those who cannot attend the whole meeting, are referred to the above program of the American Home Economics Association on March 2. The headquarters of the Association will be at the Kupper Hotel. Directions for making reservations are given in the November, 1916, JOURNAL, page 610.

The Kansas City Home Economics Association invites the Home Economics visitors to the National Education Association to take a drive over the boulevards and to a tea on Thursday afternoon, March 1. The machines will leave the Kupper hotel at 2.30.

Thursday morning a visit to the schools will be arranged. In order to save time, an effort will be made to provide motor busses, the cost for each person depending upon the total number who go.

Friday noon, a fifty cent luncheon will be served at the Y. W. C. A. where the Home Economics meetings are to be held. Saturday morning a trip is planned through Loose-Wiles cracker and candy factory, and through Armour's where a special display will be arranged.

Acceptance for the boulevard drive and reservation for the Thursday morning visit to the schools and for the Friday luncheon should be sent, not later than one week before the convention to Miss Essie Margaret Heyle, Supervisor of Home Economics, Board of Education, Kansas City, Mo.

THE CENTRAL ASSOCIATION OF SCIENCE AND MATHEMATICS TEACHERS

Home Economics Section

The Home Economics Section of the Central Association met in Harper Memorial Library of the University of Chicago Friday December 1 and 2.

After the appointment of a nominating committee Dr. C. F. Langworthy, Chief of the Office of Home Economics, United States Department of Agriculture, Washington, D. C., spoke on Teaching Practical Dietetics. The point chiefly emphasized was the use of simple and objective methods in teaching dietetics to the average student or housewife, such as explanatory pictures of actual meals, lists of foods arranged in the five groups, or charts with printed explanations. Dr. Langworthy illustrated his talk with lantern slides showing typical examples. Miss Amy Daniels, in charge of dietetics at the University of Wisconsin, discussed Dr. Langworthy's paper. She agreed with Dr. Langworthy and added that she felt that the housewife and the student need to understand the meaning of technical terms, but do less of the mathematics of dietetics. To the inquiry, "Would you use such terms as 'growth determinants' in the secondary school?" Miss Daniels replied, "yes, and give the reasons why."

Miss Carrie A. Lyford, Specialist in Home Economics, Bureau of Education, Washington, D. C., presented a paper on Fitting Home Economics Work to Community Needs. The last paper presented was The Content of Domestic Art Courses, by Miss Anna McMillan, in charge of Domestic Art, Lewis Institute, Chicago. Since the Saturday morning meetings were to continue along these lines, these papers were not discussed.

On Saturday morning the meeting was called to order by the chairman, Miss Edna White. A brief business meeting followed.

The report of the joint committee on a course in high school chemistry for students in Home Economics was read by Miss Elizabeth Miller of the University of Chicago. The report was accepted and ordered printed in the proceedings and in The Journal of Home Economics.

The chair was requested to appoint a committee to approach the Physics section with a view to arranging a similar combination course in Physics and Home Economics.

The report of the Nominating Committee was as follows: For Chairman, Mildred Weigley, Minneapolis, Minn.; Vice-chairman, Faith Lanman, Columbus, Ohio; Secretary, Beatrice Hunter, Chicago, Ill.

(Signed) Emma Conley,
Jenny Snow,
Bernice Allen.

The following votes of thanks were passed: to the government for sending Dr. Langworthy and Miss Lyford to the meeting; to the University of Chicago and to the reception committee for their courtesy to this section.

The meeting then divided into two sections for round table discussions.

SECTION I

Standardization of food teaching in grades and high school

Emma Conley, Extension Department, University of Wisconsin, presiding.

First topic. Home Economics in the Junior High School.

Discussion opened by Carrie E. King, public schools, Chicago, followed by Faith Lanman, Supervisor of Domestic Science, Columbus, Ohio. The points brought out in the discussion were:

1. Great over-lapping of courses in Domestic Science in grades and high school.
2. An apparent tendency to leave out essentials in the course.
3. Necessity of becoming familiar with utensils and how to care for them.
4. Necessity of teaching ideals as to personal cleanliness.
5. Emphasizing technique.
6. Problem of making school kitchens self supporting, as students are interested in food sales. This point brought out several objections.
   a. It imposes extra work on the teacher.
   b. To make food salable, there may be over-emphasis of technique and neglect of other educational factors.
   c. There is danger of sacrificing the child to the product, since the teacher often steps in to save mistakes for the sake of the finished results.
   d. Often only the children who do things well are allowed to cook. The point was upheld by others who felt that it was well for students to be judged by home standards if the food was made in family size, not institutional, recipes, as that is what they should learn to handle, and the work should keep the needs of the girl the main aim.
7. Teaching the spending of the family income.
8. Teaching economy of time, labor, and money.
9. Giving pupils idea of living simply.

Second topic. Science in Relation to Food Work.

Discussion opened by Miss Jenny Snow, Chicago Normal College, followed by Miss Helen Monsch, Iowa State College, Ames, Iowa.

Points brought out in discussion and illustrated by examples were:

1. "Learn to control material things which lie about you to make life gracious and more worth living."

2. Our purpose in teaching will control our work; we, as women, are inclined to hold back in the use of scientific apparatus, such as the use of accurate thermometers, to show how to control baking processes.

3. The high school girl is not primarily scientific, therefore the science work given to her must have a practical application; show a reason for what she is going to do.

4. Teaching the student not to be afraid of the things with which she is working.

5. Do not think of the work from the college standpoint, but from the standpoint of community needs.

Third Topic. Teaching of Standards, Florence Harrison, University of Illinois. Miss Harrison's outline follows:

Teaching of Standards

In teaching the food course, it seems of paramount importance that the teacher should have in mind as her aim, the establishment of definite habits, ideals, and attitudes of mind as well as the teaching of certain facts and principles.

Time will not permit mention of all the habits which may be formed, but a few are as follows:

A. Personal habits.

1. Washing hands before handling food.
2. Wearing *clean* apron in kitchen.
3. Using individual towels.
4. Fastening hair well out of the way.
5. Keeping handkerchief away from work table and washing hands after its use.
6. Tasting from an extra spoon and not one that goes back into food.

B. Habits in manipulation.

1. Measuring accurately.
2. Thoroughly cleansing foods.
3. Arranging utensils conveniently and orderly while working.
4. Planning for needs and reducing steps to the minimum.
5. Using suitable utensil or tool and only for purpose intended and suited.
6. Stirring, etc., without wasting effort.

C. Habits in connection with care of the room.

1. Washing utensils thoroughly in an abundance of hot water.
2. Having a definite place for utensils and putting them in it.
3. Looking before leaving the room to see if everything is in order.

But the establishment of these habits in school is not sufficient to insure their being carried out as the girl performs her tasks under different surroundings and without supervision, unless ideals have been formed which impel one in favor of the habit formed. These impulses are acquired through the formation of the habit and partly because of discussions regarding the value and importance of the method of procedure followed. This idealizing of the method of work in order that specific habits may become general makes essential the daily discussion of the importance of and reasons for giving attention to the details of the processes to be carried out. The few minutes at the beginning of every laboratory period devoted to such discussion are not wasted, but rather are of inestimable value.

Some of the ideals which should be developed are:

1. Cleanliness.
2. Orderliness.
3. Accuracy and exactness in measurements and manipulation.
4. Economy in movements and use of utensils, materials, and time.
5. Good workmanship.
   a. Making good products.
   b. Ability to criticize own work.
   c. Independence in work.
6. Living within one's means.
7. Coöperation in home and community.

A few of the attitudes of mind to be sought are:

1. Appreciation of attractiveness and spotlessness in table service.
2. Desire for simplicity in preparation and service of food.
3. Prejudice against filth, disorder, respect for knowledge and investigation.
4. Appreciation of hand work and the dignity of labor.
5. Appreciation of time, money, and energy.
6. Appreciation of value of system and planning.
7. Respect for and appreciation of the work of others.

The importance of the habits which may result but frequently do not result from the teaching of the food course, makes imperative the finding and following of a method which

will insure their formation. Such method, it is believed, means, first, that such training should begin in the elementary school and the early years of the high school; secondly, that the classes should be comparatively small, not more than twenty and preferably sixteen; thirdly, daily attention to details which necessitates lessons not overcrowded with subject matter. This would mean separate recitation periods, especially for high school; and lastly, standards of good workmanship, which are formed by seeing and handling that which is well done and by comparing and criticizing efforts made.

The definite prejudices, ideals and attitudes listed, which it is believed may result, the teacher must feel responsible for *causing* to result. These somewhat intangible controls are not quickly formed and indicate that the subject should extend over a considerable length of time, as throughout the high school course.

Dr. Langworthy suggested that many of these points could be printed on charts for memoranda in the home kitchen.

Fourth Topic. High School Home Economics and College Entrance Requirements, Miss Gertrude Van Hoesen, University of Chicago.

Miss Van Hoesen said that there are apparently few, if any, such requirements. The difficulty lies with over-lapping of work. The high school will not accept the elementary work, and the college does not accept much of the high school work which is taught by graduates of these colleges, hence the thing moves in a circle and probably the college is to blame for not guiding the future teacher to better advantage.

1. Our work is judged academically, and also economically. Are we wasting time, energy, materials, and money? Home Economics should be economics first, then science and art.

2. Just now we accept high school courses good, bad, and indifferent.

By vote the session was prolonged for further discussion.

The following points were taken up.

1. Have we increased the standard of living or of luxury?

2. Are we teaching the use of many luxurious foods and articles of clothing?

3. Do not teach elaborate process of preparation for which most persons have not time.

4. Be bacteriologically clean rather than spotlessly clean. Miss Snow said that to avoid a cross woman in the household was more important than to be spotlessly clean.

5. Urge less waste in housekeeping, but do not throw the entire burden on the housewife, but some on society at large. There is no social group in good home management.

It was moved and seconded that the chairman appoint a committee to collect recipes for foreign dishes to be taught in certain communities, so that the work in these districts can be "carried home," as the American recipes are very slowly accepted by parents of foreign birth, and that these recipes be printed in the JOURNAL. This motion was carried and the following committee appointed: Miss Jenny Snow, Chicago Normal College; Miss Mabel Wellman, Indiana University; Miss Anna Van Meter, Ohio State University.

Announcement was made that the Central Association will meet next year at Columbus Ohio, and an invitation was extended by the University to the Home Economics Section to hold their session in the new Home Economics Building.

The meeting adjourned.

SECTION II

Standardization of textile and clothing teaching in grades and high school

Ethel Sapp Tudor, in charge of Home Economics Department, Baldwin-Wallace College, Berea, Ohio, presiding.

The discussion of the following topics was general and quite informal:

1. Variation of courses for different communities. Leader, Anne Green, Extension Department, University of Illinois.

2. Courses of study. Leader, Agnes Hanna, School of Education, University of Chicago.

3. Relation to the curriculum as a whole. Leader, Ethel Alexander, High School, Fostoria, Ohio.

4. Sources of supplementary material. Leader, Lora Lewis, Supervisor, Terre Haute, Indiana.

5. Teaching of standards. Leader, Maude Gregory Adams, Supervisor of Practice Teaching, Ohio State University, Columbus.

A general consensus of opinion was that—

(a) Because community needs vary so greatly, there can be standardization in teaching Domestic Art only along broad general lines;

(b) We need to concentrate more upon a few definite things we hope to teach with any given group of pupils;

(c) Through correlation with all other high school and grade studies, the teaching of Domestic Art may be made of more value to the pupils;

(d) There are many standards of equal importance with technical skill, and these should be considered a necessary part of the subject to be taught.

GRACE GORDON HOOD,
Secretary.

The Annual Meeting of the National Society for the Promotion of Industrial Education is to be held February 21 to 24 in Indianapolis, following a survey, for the purposes of industrial education, of the state of Indiana.

This meeting is of great interest to workers in home economics, and those who attend will be amply repaid. No special session for women's work will be held, but on each general program that side of the work will have consideration. "The Two-Fold Problem of Training Girls" by Mrs. Eva White of Boston is of special interest. There will be a dinner meeting on February 23 and a luncheon meeting on the 24th where vocational training for girls and women will be discussed.

The advance program, giving full details, will be sent anyone on postal card request to the N. S. P. I. E., 140 West Forty-second Street, New York City.

The Smith-Hughes Vocational Education Bill passed the House of Representatives, Tuesday, January 9. The bill now goes to a Conference Committee to be amalgamated with the Senate Bill which passed last August, from which it differs in slight detail. As the bill unanimously passed in both Houses, its consideration in the Conference Committee will be largely a matter of routine and we may confidently expect that it will be signed by the President early in February, to go into effect July 1, 1917. The amendments advocated by the organizations chiefly interested in the bill were practically all secured. The bill will undoubtedly come from the Conference Committee in far better and more complete form than it was earlier believed possible to secure.

CONVENTIONS IN FEBRUARY

The Fourteenth Annual Convention of the Religious Education Association is to be held in Boston, February 27 to March 1. One session is to be on The Family, and includes addresses by Rev. Abraham W. Ribbany on The Old and the New Foundations of the Family Altar; by Dr. Richard C. Cabot on Family Prayers; by Rabbi Harry Levi, of Temple Adeth Israel, on The Training of Parents, and by Dr. William McKeever, of Kansas State Agricultural College on The Responsibilities of Parents to their Children.

The Consumers' League of the State of New York will again hold its annual meeting in New York City, in conjunction with the quarterly conference of the National League and the annual meeting of the New York City League, February 15 and 16. General Goethals and Dr. Alice Hamilton have been invited to speak.

THIS IS LABEL MONTH. ASK FOR IT. PERSIST.